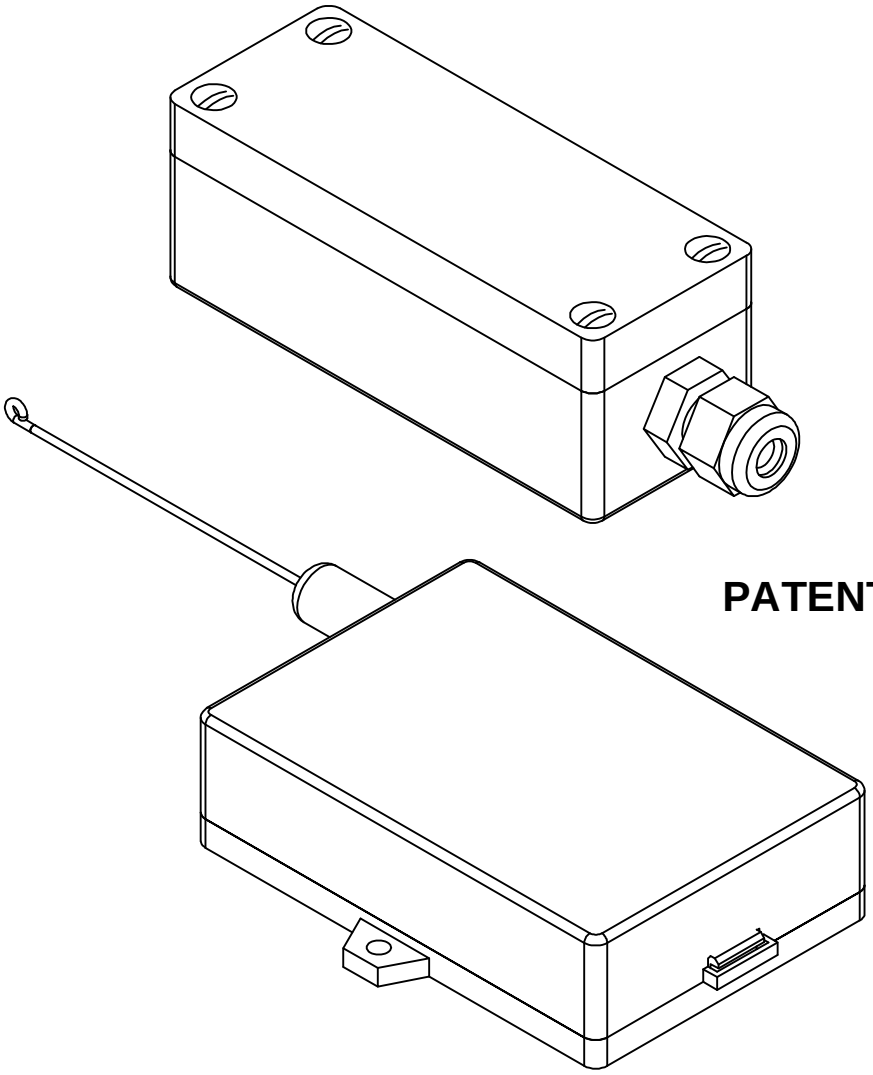
COOKSON OWNER'S MANUAL

PHANTOM FEATHEREDGE™

VERSION 5

WIRELESS SELF MONITORING SENSING EDGE SYSTEM



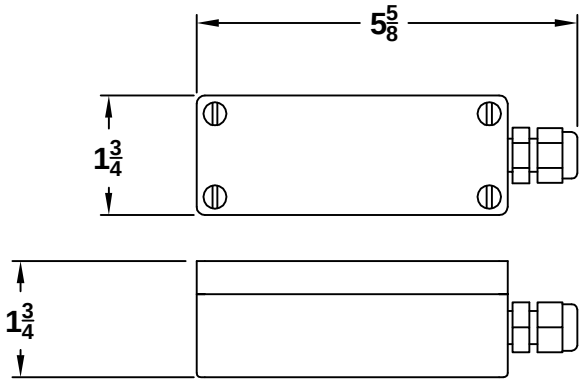
PATENT NO. 6,225,768

SPECIFICATIONS

COMPATIBLE WITH THE FOLLOWING OPERATORS:
- MGJ / H / GH / FDO-A / FDO-B / FDO-A10
NOT COMPATIBLE WITH OTHER (RF)
RADIO FREQUENCY DEVICES

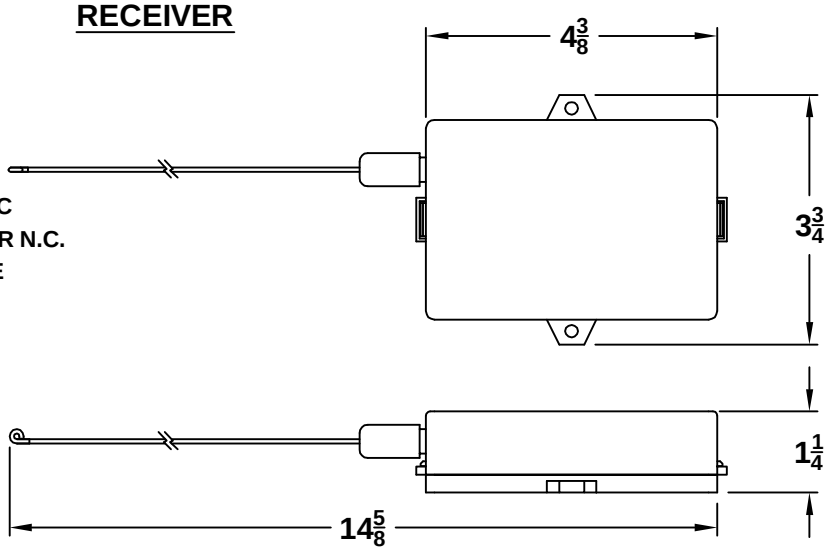
TRANSMITTER

ENCLOSURE MATL:.....POLYCARBONATE
ENCLOSURE COLOR:.....BLACK
ENCLOSURE RATING:.....NEMA 4
OPERATING TEMP:.....-25° F TO 120° F
OPERATING FREQUENCY:..315 Mhz
MAX OPER DISTANCE:.....50 FT
POWER:.....9 VOLT LITHIUM BATTERY
EXPECTED BATTERY LIFE:.12 MOS-NORMAL USAGE
ANTENNA TYPE:.....PCB LOOP
SPECIAL FEATURES:
- PROGRAMMABLE TRANSMITTER CODES
- DETECTS LOW BATTERY VOLTAGE
- LED INDICATOR



RECEIVER

ENCLOSURE MATL:.....ABS
ENCLOSURE COLOR:.....BLACK
OPERATING TEMP:.....-25° F TO 120° F
MAX OPER DISTANCE:.....50 FT
POWER:.....24 VOLT AC OR DC
ELECTRICAL CONFIG.:.....OPTIONAL N.O. OR N.C.
ANTENNA TYPE:.....COAX RIGID WIRE
SPECIAL FEATURES:
- PROGRAMMABLE RECEIVER CODES
- LED INDICATORS



PACKAGE CONTENTS:

DESCRIPTION	QTY
RECEIVER W/WIRING HARNESS	1
TRANSMITTER W/ADHESIVE TAPE	1
BATTERY-9 VOLT LITHIUM	1
ANTENNA	1
#6 RHMS SCREWS	2
WIRE NUT	1
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THEORY OF OPERATION

GENERAL DESCRIPTION:

The Phantom Edge is a self monitoring wireless (RF) sensing edge system. A special communication protocol between the transmitter and receiver allow for additional signals (other than edge activation) to be sent, such as battery condition and periodic communication checks. If the unit detects a fault it will convert the operator to supervised mode (i.e. constant pressure contact on operator close control) indicating that maintenance is required. The Transmitter is also equipped with a motion sensor that "wakes" Transmitter when door is in motion. This feature extends battery life.

OPERATION:

When the Bottom Bar encounters an obstruction, the Transmitter sends reversing signal to the Receiver, reversing the door. The unit has self check features, which ensure that the device is functioning properly.

- **The unit periodically tests communication by sending a signal at regular intervals.**
- **When the door reaches the fully closed position, the sensing edge will activate, sending a signal to the Receiver.**
- **Low Battery Voltage condition**

If any of the above occur (not occur) the unit will enter into Supervised Mode: Constant pressure will be required on close door operation until fault is corrected.

INSTALLATION INSTRUCTIONS

TO PREVENT ELECTROCUTION DISCONNECT POWER AT FUSE BOX OR CIRCUIT BREAKER AND OPERATOR BEFORE WIRING

FOLLOW ALL LOCAL BUILDING CODES AND NATIONAL ELECTRICAL CODES. IMPROPER WIRING COULD CAUSE ELECTROCUTION OR DAMAGE TO CIRCUITRY

NOTES:

- **BEFORE INSTALLING, VERIFY THAT YOU HAVE A COMPATIBLE OPERATOR THAT IS EQUIPPED WITH AN EXTRA, DEDICATED AUXILIARY CLOSED LIMIT SWITCH. (SEE SPECIFICATION SECTION FOR LIST OF COMPATIBLE OPERATORS)**
- **OPERATOR SHOULD BE COMPLETELY WIRED AND FUNCTIONAL PRIOR TO INSTALLING PHANTOM EDGE SYSTEM.**

TRANSMITTER INSTALLATION:

1) Locate position on Bottom Bar near Sensing Edge pigtail. (Approx. 18" from end of Bottom Bar)

2) Clean the vertical surface where the Transmitter is to be mounted on the Bottom Bar.

3) Remove the protective film from the adhesive backed foam tape and attach it to the back of the Transmitter box. Attach the Transmitter box to Bottom Bar vertical surface with the label facing outward, not up.

NOTE: If your installation requires the use of mounting screws, remove the cover from transmitter, the mounting holes are at the corners (at cover screw locations). DO NOT drill any holes in the Transmitter box.

4) Attach the quick lock plug on the pigtail of the Transmitter to the plug on the pigtail of the Bottom Bar.

5) Be sure that the battery strap is connected and insert the lithium ion 9 Volt battery into the cover of the unit, and replace the cover. The green LED light should light indicating that the unit is functioning properly.

6) Remove cover and disconnect battery until receiver is installed.

RECEIVER INSTALLATION:

NOTE: THE OPERATOR REQUIRES AN EXTRA, DEDICATED AUXILIARY CLOSE LIMIT SWITCH.

CAUTION: DISCONNECT POWER TO OPERATOR

1) Locate the Receiver on the Operator Control Enclosure, with Antenna pointed down and free of obstructions. Make sure a knock out is accessible, and that mounting screws will clear internal components of the door operator.

2) Wire to Operator per operator specific wiring diagram. (See Appendix for Wiring Diagrams)

3) Attach Coax Rigid Wire antenna. (The unit will not work unless the rigid antenna is properly attached) (Units with Motor Covers will require a remote antenna kit to mount the antenna outside the motor cover)

4) Verify that the dip switches in the Receiver and Transmitter are set properly.

5) Verify correct wiring. Restore power to Operator.

6) Re-connect Battery in Transmitter and secure cover.

CAUTION

BE SURE THAT ALL COAX FITTINGS AND COAX WIRES DO NOT COME IN CONTACT WITH ANY PART OF THE METAL CONTROL BOX. THIS WILL RESULT IN A SHORT, AND WILL DAMAGE THE RECEIVER.

START UP / TESTING PROCEDURES

INITIAL POWER UP:

NOTE: MAKE SURE TRANSMITTER BATTERY IS DISCONNECTED OR THE TRANSMITTER IS IN MOTIONLESS "SLEEP" MODE BEFORE POWERING THE RECEIVER.

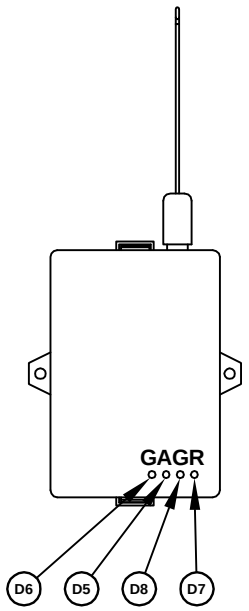
1) **The unit will be in "Supervised Mode":**
   Constant pressure required on door CLOSE control
   - 2 LED's under the label will be lit.

2) **Hold closed door control:**
   - (D3) "Transmitter Awake" (GREEN) LED will lite when door is in motion.
   - (D8) "Signal Acquired" (GREEN) LED will lite when edge is pressed.

3) **When door closes completely:**
   - (D5) "Edge Activation" (AMBER) LED will light for several seconds.
   NOTE: Closed limit and/or air switch (if applicable) may need adjustment to ensure that edge is activated when door is fully closed. See Installation Instructions for the door and operator for adjustment procedure.

4) **Receiver will switch to "Normal Mode":**
   - (D6) "Normal Mode" (GREEN) LED will light.
   Door now requires momentary contact for CLOSE control.

RECEIVER (ON OPERATOR)



LED LEGEND-RECEIVER

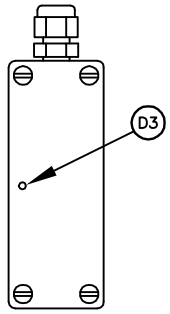
D6	GREEN	NORMAL MODE
D5	AMBER	EDGE ACTIVATION
D8	GREEN	SIGNAL ACQUIRED
D7	RED	CHECK BATTERY

TEST CLOSED DOOR CHECK:

1) **With door several feet from closed position, disable sensing edge connection to the Transmitter by one of the following methods:**
   Pneumatic/Air Edge:
   - Remove air tube from air switch on Bottom Bar
   Electrical Edge:
   - Unplug quick disconnect plug connecting Transmitter to Sensing Edge.
   - (D7) "Check Battery" (RED) LED should not be lit.

2) **Close door completely**
   Unit should switch to "Supervised Mode":
   Constant pressure required on door CLOSE control.
   - (D6) "Normal Mode" (GREEN) LED will turn off.

TRANSMITTER (ON BOTTOM BAR)



LED LEGEND-TRANSMITTER

D3	GREEN	"AWAKE" TRANSMITTER IN MOTION

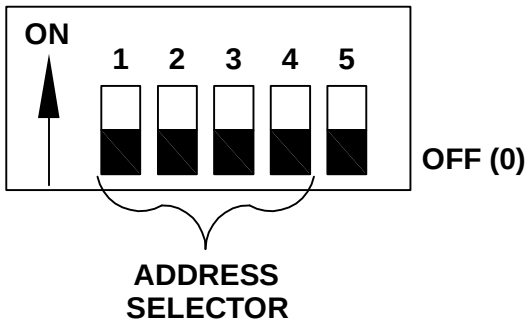
3) **Open door several feet - Verify that unit is still in "Supervised Mode". Constant pressure required on door CLOSE control.**
4) **Reconnect sensing edge to Transmitter.**
5) **Close door completely:**
   Unit will switch to "Normal Mode" (within 3 sec).
   - (D6) "Normal Mode" (GRN) LED will light. Door now requires momentary contact for CLOSE control.

TROUBLESHOOTING

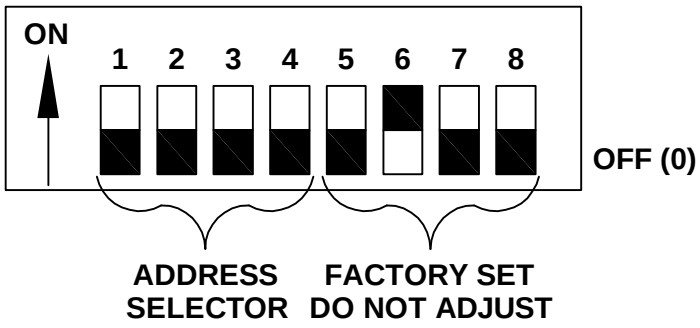
1) **Verify address selection dip switches (1 thru 4) are set the same on the Transmitter and Receiver.**
2) **Make sure that the limits are adjusted so the safety edge impacts the floor hard enough to activate the safety edge on CLOSE. (The Transmitter must send a signal to the Receiver at the bottom of the opening for the unit to function properly during the next cycle)**
3) **Check the Battery voltage first. (The Receiver can not tell the difference between a dead battery and a bad edge) Minimum 7 Volts. Replace battery if voltage is at or below minimum.**
4) **Verify that the extra, dedicated Auxiliary Close Limit Switch is adjusted so that it trips less than 6" off the floor. If not adjusted correctly the unit will not remain in "B2", "Normal" mode.**

DIP SWITCH CONFIGURATIONS

RECEIVER SWITCH SETTINGS



TRANSMITTER SWITCH SETTINGS



LABEL AND MANUAL INFORMATION

1) Labeling Requirement

In accordance with the Section 15.19 of FCC Rules, a permanently attached label shall be affixed to every product in a conspicuous location with the following statement:

"This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation."

(a) For a class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

"Note: This equipment has been tested and found to comply wit the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which cause the user will be required to correct the interference at his own expense."

(b) For a class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

"Note: This equipment has been tested and found to comply wit the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna.**
- **Increase the separation between the antenna and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio/TV techician for help."**

2) Information to User

The users manual or instruction manual for an intentional or unintential radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

APPENDIX INDEX

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WIRING DIAGRAM - FDO-A / FDO-B	A-4
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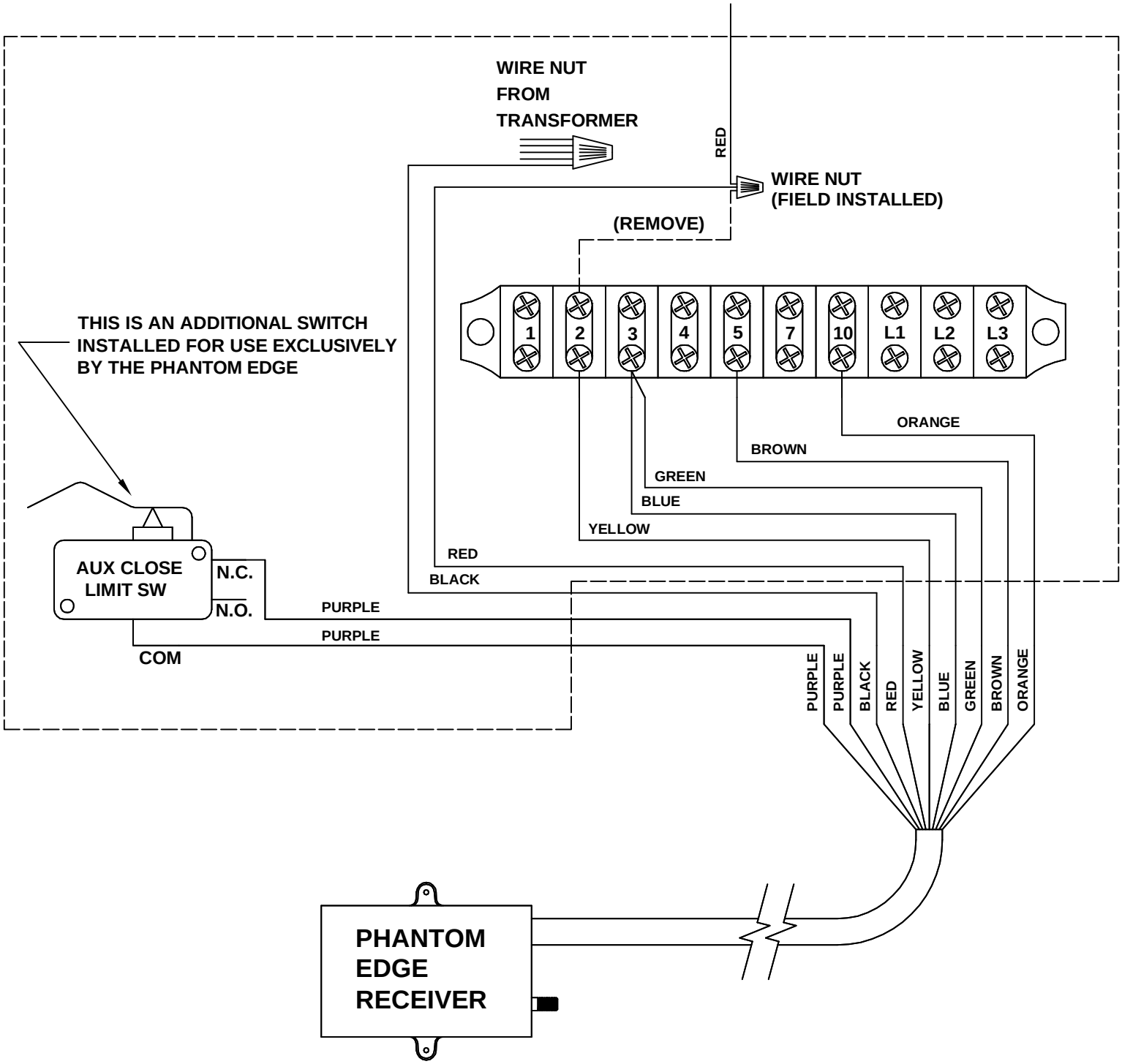
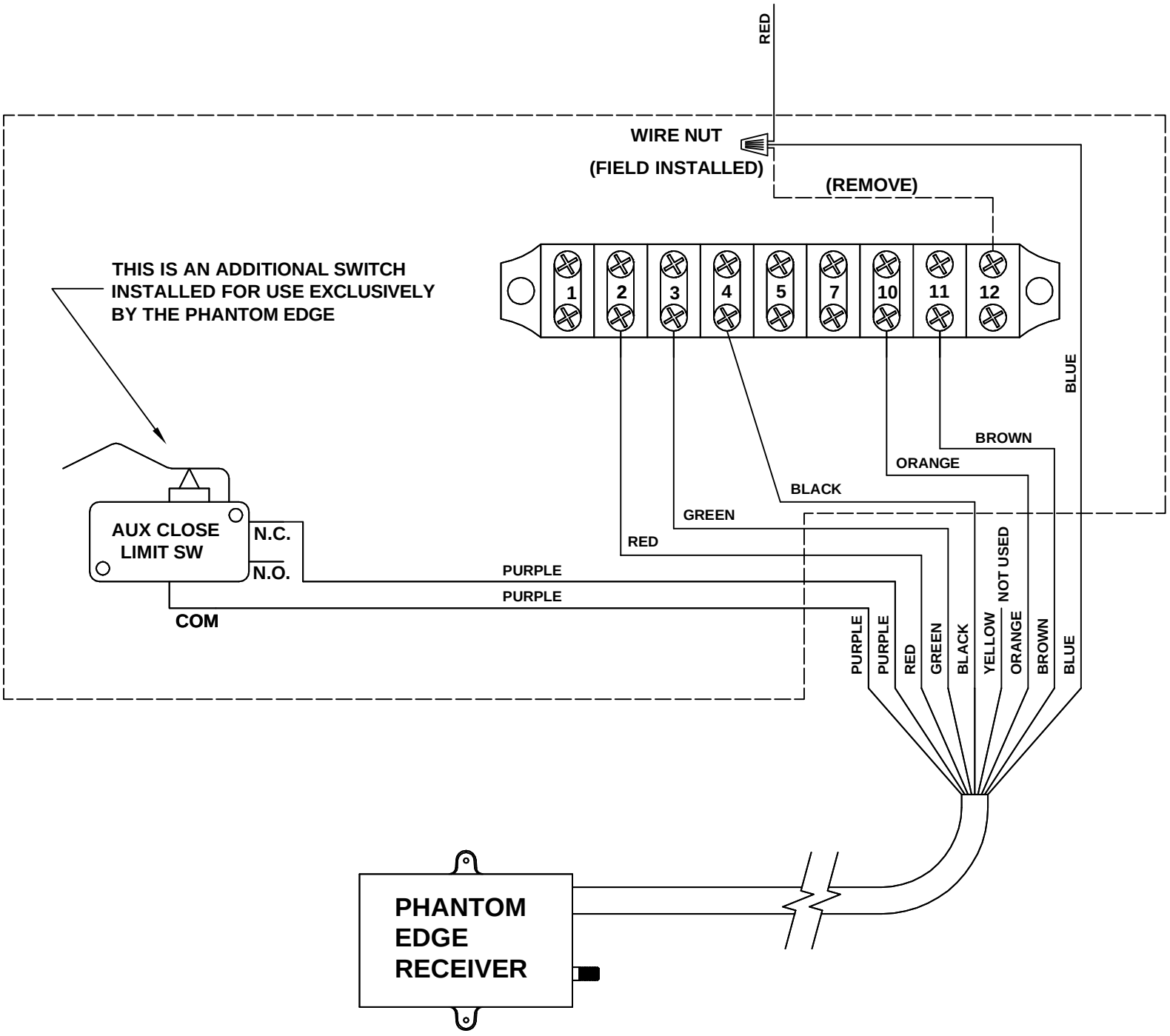
LIFTMASTER GH/H

WIRING DIAGRAM



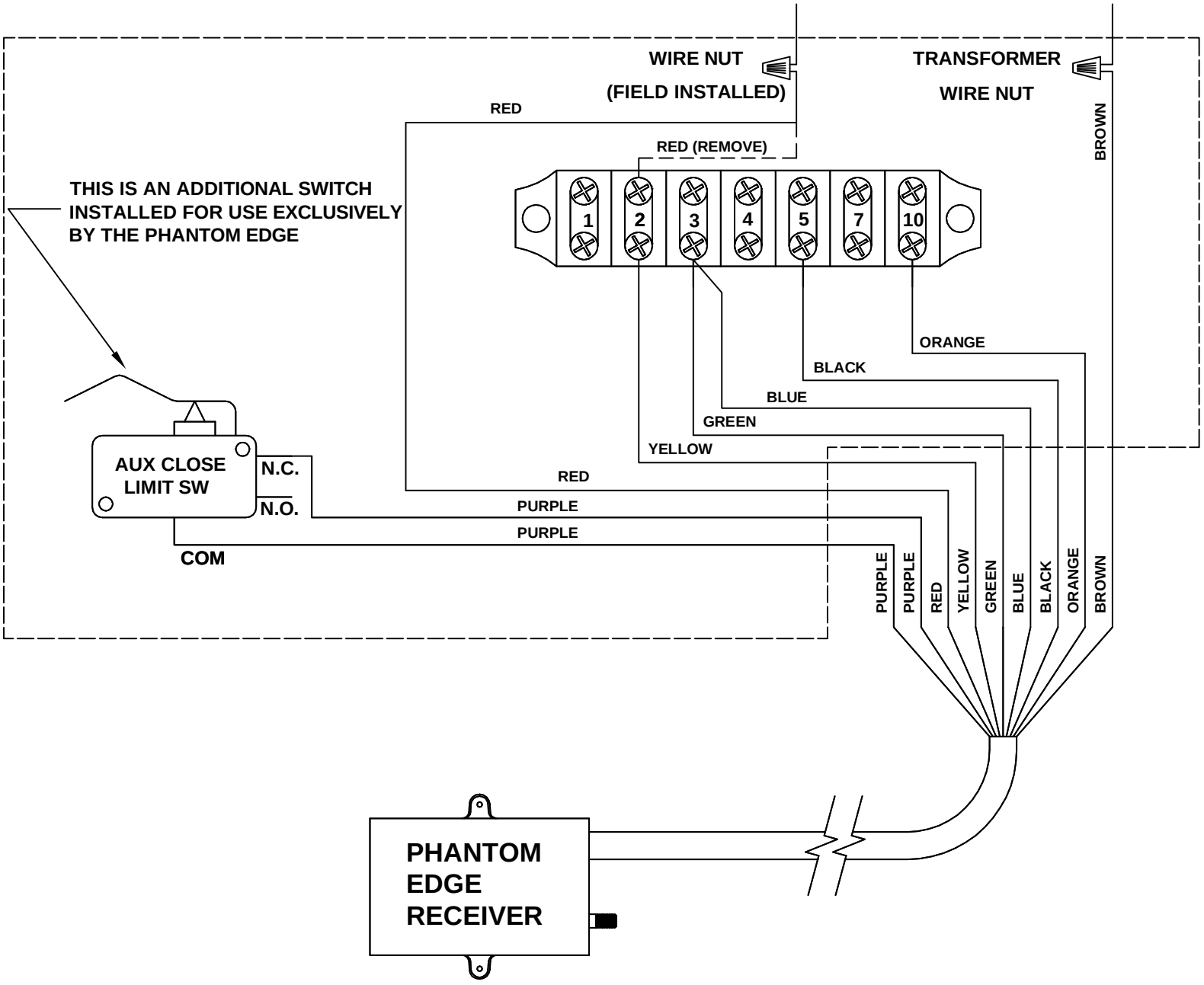
LIFTMASTER MGJ - SINGLE PHASE

WIRING DIAGRAM



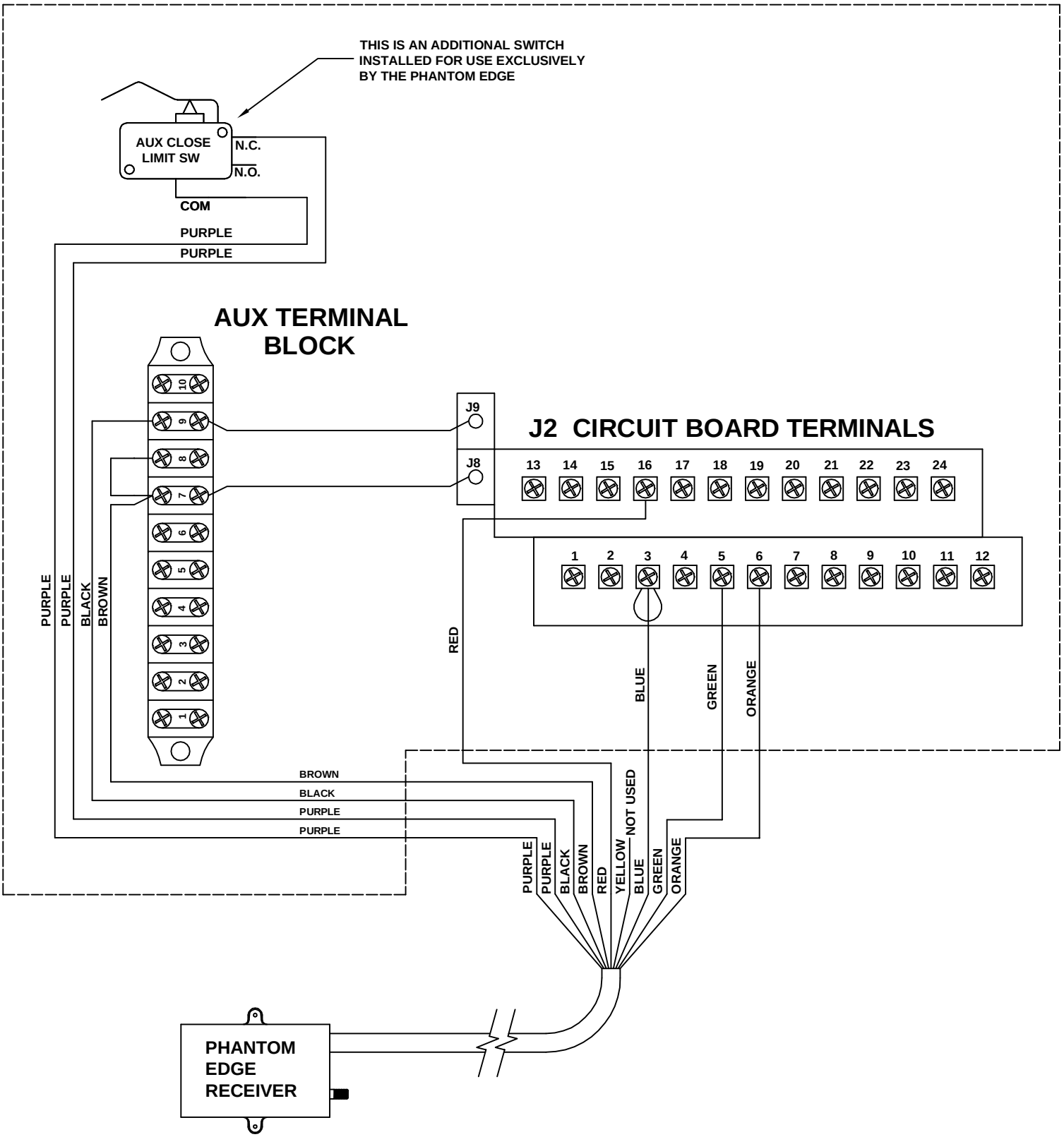
LIFTMASTER MGJ - 3 PHASE

WIRING DIAGRAM

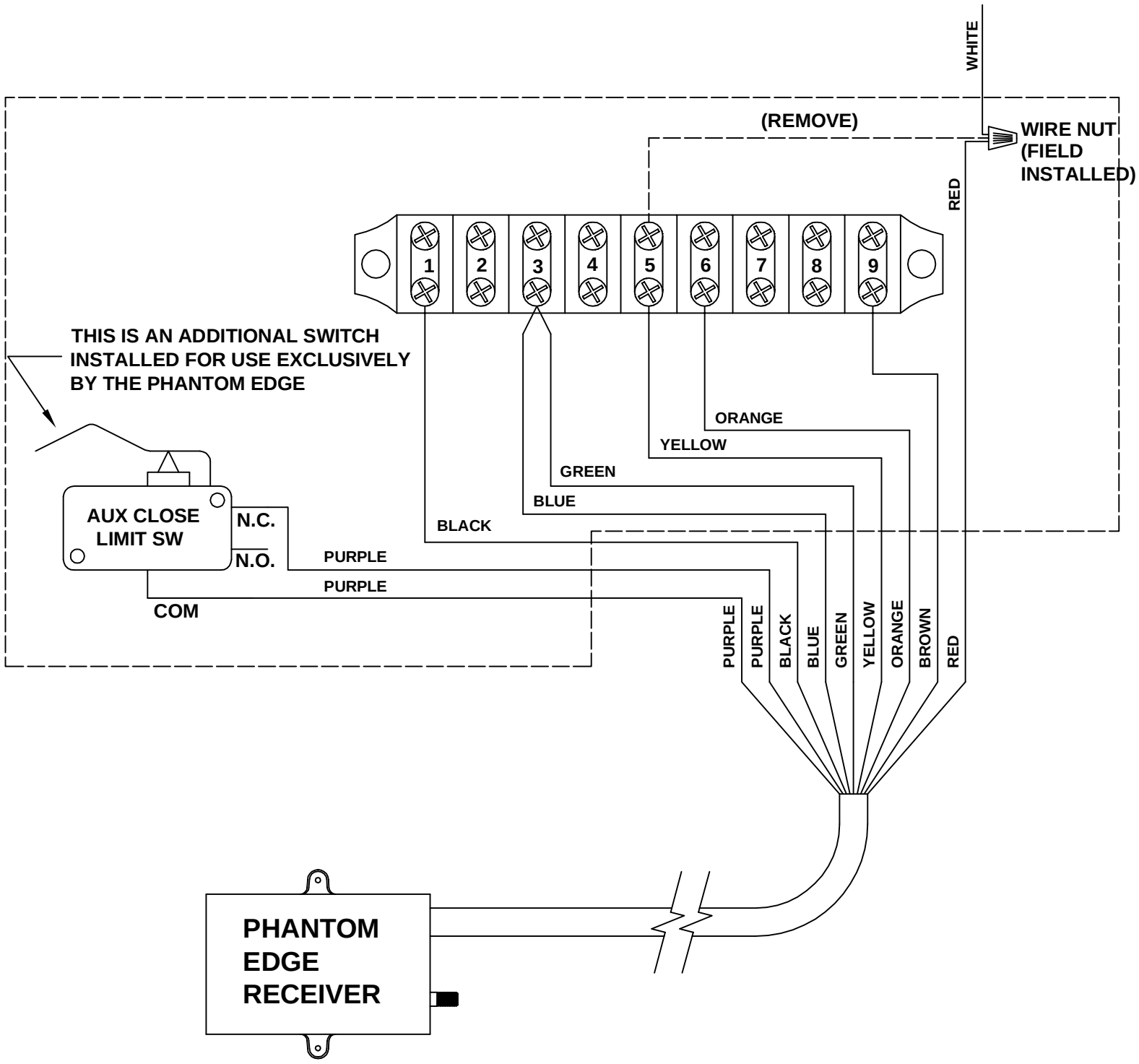


FDO-A/FDO-B OPERATOR

WIRING DIAGRAM



MICANAN GH/H
WIRING DIAGRAM



FDO-A10
WIRING DIAGRAM